

RECOGNITION OF *ERIOGONUM CALCAREUM* VAR. *SCEPTRUM* (POLYGONACEAE), AN IDAHO ENDEMIC

JAMES L. REVEAL

L.H. Bailey Hortorium
Department of Plant Biology, Cornell University
Ithaca, New York 14853-4301
e-mail: jlr326@cornell.edu

DONALD H. MANSFIELD

Department of Biology
College of Idaho
Caldwell, Idaho 83605
e-mail: dmansfield@collegeofidaho.edu

ABSTRACT

Ongoing field and herbarium research on *Eriogonum calcareum* (Polygonaceae) of southeastern Oregon and southwestern Idaho has shown that the common phase in Idaho is a distinct expression that is worthy of recognition. Thus, the new combination *Eriogonum calcareum* (S. Stokes) Grady & Reveal var. *sceptrum* (Reveal) Reveal & Mansfield, **comb. nov.**, is proposed based on the 1989 name *E. ochrocephalum* var. *sceptrum*.

When Grady and Reveal (2011: 35) elevated *Eriogonum ochrocephalum* S. Wats. subsp. *calcareum* S. Stokes (1936: 92) to the rank of species, they defined their *E. calcareum* (S. Stokes) Grady & Reveal broadly and did not recognize the phase commonly found in Idaho, namely *E. ochrocephalum* var. *sceptrum* Reveal (1989: 252; 2012: 298). More intense study of *E. calcareum* by Mansfield and his students, however, has shown that the two phases are distinct. To make available the appropriate nomenclature for their publications, and to make the name available for a field guide to *Eriogonum* and relatives for a joint meeting of The Eriogonum Society and The Idaho Native Plant Society to be held in Twin Falls, Idaho, in June 2014, the following combination is proposed.

Eriogonum calcareum* (S. Stokes) Grady & Reveal var. *sceptrum* (Reveal) Reveal & Mansfield, **comb. nov.* *Eriogonum ochrocephalum* S. Wats. var. *sceptrum* Reveal, Phytologia 66: 252. 1989. **TYPE.** USA. Idaho. Owyhee Co.: 11 mi SW of Bruneau, 7 Jul 1974, J.L. Reveal 3687 (holotype: US; isotypes: ARIZ, ASU, BRY, CIC, COLO, DAV, GH, IDS, GH, NY, RM, RSA, TEX, UTC).

Plants herbs, erect, scapose, 2–4.5(–5) dm tall; stems spreading, without persistent leaf bases, up to 1/5 height of plant, the caudex stems slightly matted, the aerial flowering stems erect, slender, solid, not fistulose, 1.5–4.5 dm long, glabrous; leaves basal, 1 per node, the petioles 1–3 cm long, tomentose, the blades mostly narrowly elliptic to oblong, (0.6–)1–3.5(–4) cm long, (0.3–)0.5–1 cm wide, densely white-tomentose on both surfaces, the margins plane; inflorescences subcapitate, 1.5–2.5 cm long, the subtending bracts 3, scalelike, narrowly triangular, 1–2.5 mm long, often floccose; peduncles erect, slender, 0.1–0.5(–0.6) cm long, glabrous; involucre solitary on a peduncle, narrowly turbinate to turbinate, 3.5–4.5(–5) mm long, (1.5–)2–3(–4) mm wide, rigid, sparsely floccose to glabrous over the upper half of the tube, the teeth 6–8, erect, 0.5–1 mm long; flowers 1–1.5(–2) mm long, usually bright yellow, glabrous, the hypanthium only at base of perianth, the tepals monomorphic, broadly oblong, the stamens exserted, 2.5–3.5 mm long, the filaments pilose proximally; achenes light brown, 1.5–2 mm long, glabrous.

Flowering May-Jun. Volcanic ash flats, washes, and slopes with little magnesium, in Chalk Hills and Glenns Ferry formations, in saltbush and sagebrush communities and juniper woodlands; 600–1000 m; Elmore, Owyhee, and Twin Falls cos., Idaho.

Representative specimens. USA. Idaho. Elmore Co.: above Rosevear Gulch, S of Glenns Ferry, 13 May 1980, *Grimes et al.* 1544 (CAS, CIC, NY); 1 mi W of King Hill, 12 Jun 1989, *DeBolt* 1146 (CIC, NY); near Glenns Ferry, 13 Jul 1975, *Reveal* 3898 (BRY, CAS, DUKE, F, GH, MICH, MO, NY, OKL, RSA, TEX, UTC). Owyhee Co.: 1.5 mile N of Little Jacks Creek along Vaught Road, 6 Jun 1998, *Atwood* 23785 (BRY; MO, NY); W of Grandview, 26 Jun 1989, *DeBolt* 1191 (NY); 4 mi W of Oreana, 5 Jul 1980, *Grimes et al.* 1759 (BRY, CAS, CIC, NY); 10 mi S of Bruneau, 29 May 1946, *Maguire & Holmgren* 26236 (BRY, CAS, CIC, DS, NY, UC, UTC); Hart Creek Canyon, W of Oreana, 8 Aug 1978, *Rosentreter* 268 (NY); Little Jacks Creek, “Chalk Hills,” Glenns Ferry Formation, 16 Jun 1982, *Smithman et al.* LS-0844 (CIC); 12 km NW of Murphy on lacustrine soils, 25 Jun 1991, *DeBolt* 1518 (CIC); Sugar Valley Badlands W of Bruneau, 3 Jun 1983, *Rosentreter* 3133 (CIC); SE of Oreana, 0.5 mi W of Birch Creek, 11 Jun 2006, *Mansfield* 06-37 (CIC). Twin Falls Co.: along Yahoo Creek near Thousand Springs, 8 air mi S of Hagerman, 14 May 1980, *Grimes et al.* 1562 (CIC, NY); 10 mi N of Twin Falls, 30 May 1946, *Maguire & Holmgren* 26239 (BRY, CAS, CICDS, MO, NY, TEX, UC, UTC); near Banbury Hot Springs, 8 Jun 1979, *Grimes et al.* 79-99 (CIC); Tuana Gulch, 31 May 2010, *Smith* 8663 (CIC, SRP).

The wand wild buckwheat, *Eriogonum calcareum* var. *sceptrum*, differs from the Harper wild buckwheat, var. *calcareum*, as follows:

1. Involucres sparsely floccose over the distal three-quarters of the tube, sessile or nearly so; scapes (0.7–)1–3 dm long; Oregon (Baker and Malheur cos.), southern Washington (Payette Co.), and Idaho (southern Canyon Co.) var. *calcareum*
1. Involucres glabrous to sparsely floccose over the upper half of the tube, pedunculate; scapes (1.7–) 2–4.5(–5) dm long; southwestern Idaho (Elmore, Owyhee, and Twin Falls cos.) var. *sceptrum*

In the field, the var. *sceptrum* is a taller herb with bright yellow flowers that occurs on sites with low magnesium concentrations, unlike var. *calcareum*, which is a shorter plant (0.7–3 dm tall) with (often) pale yellow flowers and common on sites high in magnesium. The two expressions are geographically separate although small, nearby populations of var. *calcareum* in southern Canyon Co. (Idaho) and Payette Co. (Washington) approach populations of var. *sceptrum* in northern Owyhee Co. (Idaho). The most obvious difference is in the inflorescence. In var. *calcareum*, the inflorescence is a tight capitate cluster of numerous, sparsely floccose involucres that are hairy most of their length. In var. *sceptrum* the involucres are subcapitate with the sparsely floccose (and then only near the apex) or glabrous involucres on short peduncles up to 0.6 cm long. Involucres of populations at the northeast end of the range, north of the Snake River, though pedunculate, tend to be more floccose, and, in that respect approach var. *calcareum*.

LITERATURE CITED

- Grady, B.R. and J.L. Reveal. 2011. New combinations and a new species of *Eriogonum* (Polygonaceae: Eriogonoideae) from the Great Basin, United States. *Phytotaxa* 24: 33–38.
- Reveal, J.L. 1989. New combinations and species in *Eriogonum* (Polygonaceae: Eriogonoideae). *Phytologia* 66: 251–265.
- Reveal, J.L. 2012. Polygonaceae, the knotweed family. Pp. 196–387, in: N.H. Holmgren, P.K. Holmgren, and J.L. Reveal. Intermountain flora. Vascular plants of the Intermountain West, U.S.A. Vol. 2, Part A. Subclasses Magnoliidae–Caryophyllidae. New York Botanical Garden, Bronx, New York.
- Stokes, S.G. 1936. The genus *Eriogonum*, A Preliminary Study Based On Geographical Distribution. J.H. Neblett Press, San Francisco, California.